

COMMELINA BENGHALENSIS (COMMELINACEAE)
NEW TO NORTH CAROLINA AND AN UPDATED KEY
TO CAROLINA CONGENERS

Alexander Krings

Herbarium, Department of Botany
North Carolina State University
Raleigh, NC 27695-7612, U.S.A.
Alexander_Krings@ncsu.edu

Michael G. Burton

Department of Crop Science
North Carolina State University
Raleigh, NC 27695-7620, U.S.A.
Mike_Burton@ncsu.edu

Alan C. York

Department of Crop Science
North Carolina State University
Raleigh, NC 27695-7620, U.S.A.
Alan_York@ncsu.edu

ABSTRACT

A population of the federal noxious weed *Commelina benghalensis* L. (Commelinaceae) was recently identified in a soybean field in North Carolina. Voucher specimens are cited and an updated key to *Commelina* in the Carolinas is presented.

RESUMEN

Se identifica una población de la hierba nociva federal *Commelina benghalensis* L. (Commelinaceae) en un campo de semilla de soja en Carolina del Norte. Citamos especímenes y presentamos una clave nueva para *Commelina* en las Carolinas.

A common paleotropical weed, *Commelina benghalensis* L. (Tropical spiderwort, Benghal dayflower) has been previously collected in the southeastern United States only in Florida, Georgia, and Louisiana (Faden 1993; Thomas & Allen 1993). The taxon has not been reported for North Carolina by Radford et al. (1968), Kral (1981), or Faden (1993, 2000). Federally listed as a noxious weed in 1983 (Lasseigne 1983), *C. benghalensis* has primarily been found in citrus plantations, fields, yards, and other cultivated and disturbed sites in the southeast as far north as Georgia, as well as in California (Faden 1993). During a field survey, a population of this weed was identified in a soybean field in Goldsboro, Wayne County, in the Coastal Plain of North Carolina. The infestation occurs over an area of less than 2 ha, north of SR 1008 and near the Southern Railway. The density is quite high at the edges of the crop plots and lower in neighboring (intensively managed) cotton and soybean plots. The weed was first noticed about three years ago, but was thought to be a different species (*Commelina caroliniana* Walter occurs in a neighboring field). Representative material was prepared for deposit at NCSC, US, and USCH in Oct 2001.

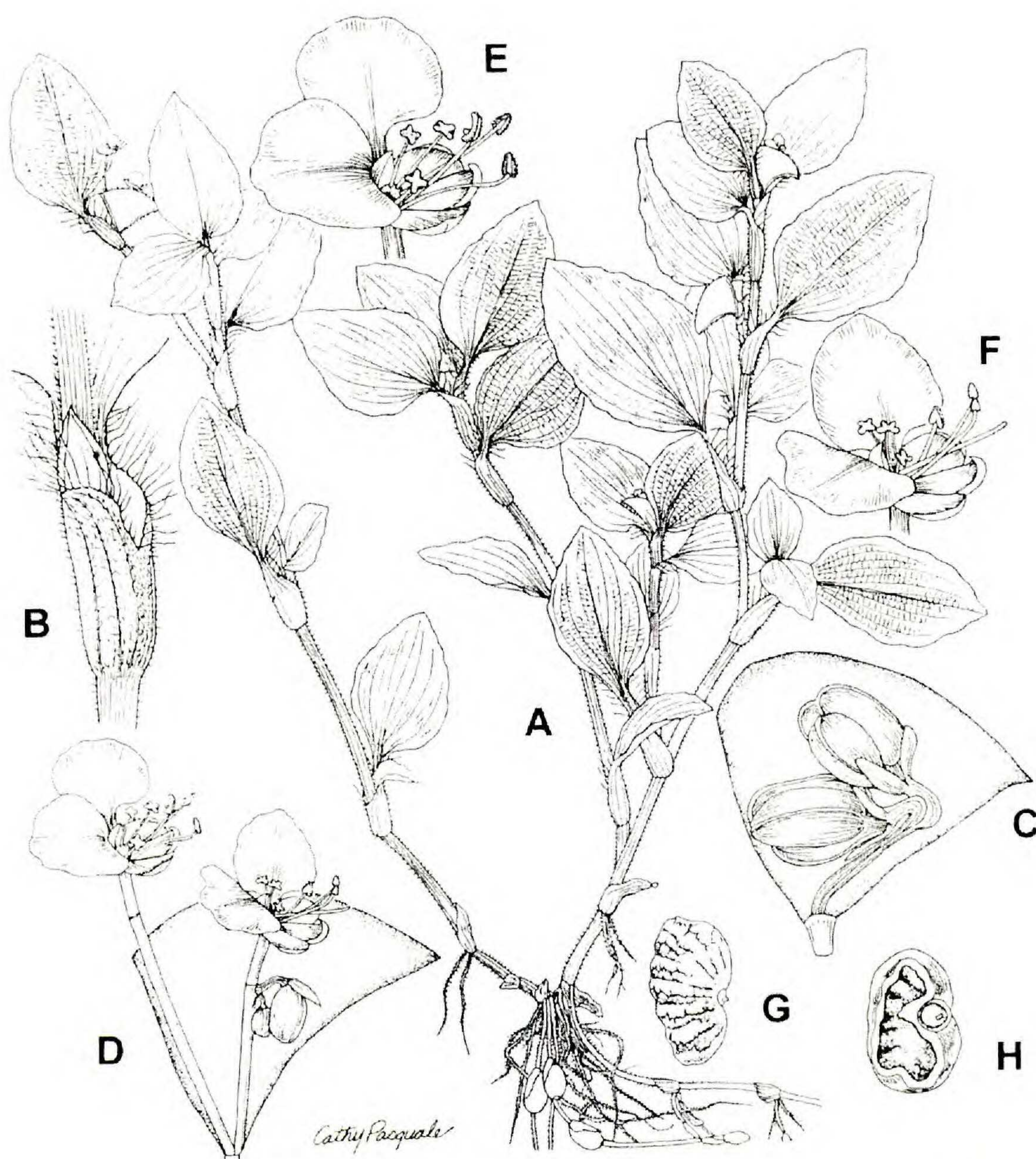


FIG. 1. *Commelina benghalensis* L. A, Whole plant, showing above ground and below ground inflorescence; B, Leaf sheath; C, Dissection of spathe with buds; D, Dissection of spathe, showing position of flowers; E, Imperfect, staminate flower; F, Perfect flower; G, seed from below ground fruit; H, Dissection of seed from above ground fruit. A-B based on *Tsiang* 2498 (NY); C-H based on *Seydel* 203 (MO). Illustration by Cathy Pasquale, courtesy of the U.S. Dept. Agric., Animal and Plant Health Inspection Service.

Voucher specimens: **U.S.A. NORTH CAROLINA. Wayne Co.:** Goldsboro, in a soybean field, 35.397 deg N, 78.046 deg W, 27 Sep 2001, *Burton, Hoyle, and Mendoza* s.n. (NCSC, US, USCH).

Commelina benghalensis L. (Fig. 1) can be distinguished from its southeastern congeners by the often clustered, infundibuliform spathes, the relatively broad leaves, often bearing reddish hairs on the sheath apex, and the basally-borne,

sometimes subterranean cleistogamous flowers in addition to chasmogamous flowers. An updated key, largely adapted from Faden (2000) follows:

KEY TO *COMMELINA* IN THE CAROLINAS

1. Spathes with margins connate basally.
 2. Roots stout; leaf sheaths auriculate apically; proximate petal white, minute; locules all 1-seeded _____ ***Commelina erecta*** L.
 2. Roots thin; leaf sheaths not auriculate; proximate petal blue to lilac or lavender, conspicuous; some locules 2-seeded.
 3. Perennial with erect to ascending stems; lamina lanceolate-elliptic to lanceolate oblong, the apex acuminate; spathes 1.5–3.5 cm long; subterranean, cleistogamous flowers absent _____ ***Commelina virginica*** L.
 3. Annual with ascending to decumbent or occasionally scrambling stems; lamina ovate to lanceolate-elliptic, the apex rounded, obtuse, or acute; spathes 0.5–2 cm long; subterranean, cleistogamous flowers usually present _____ ***Commelina benghalensis*** L.
1. Spathes with margins free to base.
 4. Spathes typically discolored whitish or pale green near peduncle with contrasting, darker green veins; proximal petal whitish or paler than the others; capsules 2-locular; seeds rugose pitted-reticulate _____ ***Commelina communis*** L.
 4. Spathes uniformly colored, without contrasting veins; proximal petal essentially colored as the others; capsules 3-locular; seeds reticulate or smooth to somewhat alveolate.
 5. Spathes typically distinctly falcate; distal cyme in larger spathes usually well-developed, 1-several-flowered; seeds reticulate _____ ***Commelina diffusa*** Burman f.
 5. Spathes not falcate to only slightly so; distal cyme in larger spathes usually vestigial (rarely well-developed, 1-flowered); seeds smooth to somewhat alveolate _____ ***Commelina caroliniana*** Walter

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